

## REMARKS

In accordance with the foregoing, the claims **23-24, 26-27, and 31** have been amended. Claims **9 and 22** are cancelled. Therefore, claims **1-8, 10-12, 14-21, 23-24, 26-36** are pending and under reconsideration, which is respectfully requested.

No new matter has been added and accordingly, entry and approval of the claims **1-8, 10-12, 14-21, 23-24, and 26-36** are respectfully requested.

## STATUS OF THE CLAIMS:

Claims **1-12, 14-24, and 26-36** are rejected.

Claims **9 and 22** are cancelled.

Claims **23-24, 26-27, and 31** are amended.

Claims **1-8, 10-12, 14-21, 23-24, and 26-36** are pending.

## ITEM 1: OBJECTION OF CLAIMS 9, 22, 26 and 27 UNDER 37 CFR 1.75(c) AS BEING OF IMPROPER DEPENDENT FORM FOR FAILING TO FURTHER LIMIT THE SUBJECT MATTER OF A PREVIOUS CLAIM.

In order to overcome the above objection, Applicants canceled claims **9 and 22**, and made claims **26 and 27** depend on dependent claim **21** properly.

Accordingly, the above objection should be withdrawn.

## ITEMS 2-3: REJECTION OF CLAIM 31 UNDER 35 U.S.C. 112, SECOND PARAGRAPH AS BEING INDEFINITE FOR FAILING TO PARTICULARLY POINT OUT AND DISTINCTLY CLAIM THE SUBJECT MATTER.

To make claim **31** overcome the rejection under 35 U.S. C. 112, second paragraph, Applicants amended the claim **31** as follows:

31. (Currently Amended) A process for preparing a gas diffusion electrode for brine electrolysis, comprising laminating a reaction layer containing an the electrode catalyst comprising a conductive carrier, and a mixture containing a particulate noble metal and at least one particulate

~~rare-earth oxide, the mixture being supported on the conductive carrier, a gas diffusion layer containing a conductive carrier, and a collector,~~  
wherein the electrode catalyst comprises a mixture containing a particulate noble metal and at least one particulate rare-earth oxide, and the mixture being supported on the conductive carrier.

Accordingly, the above rejection should be withdrawn.

**ITEMS 4-5: REJECTION OF CLAIMS 1, 3, 5-10 UNDER 35 U.S.C. 102(e) AS BEING ANTICIPATED BY YU ET AL (2005/0201919).**

The Clients herein submit the certified English translations of the priority documents of JP 2002-364531 and JP 2002-236862 in connection with the current patent application of 10/538,169, which is a national stage of international application of PCT/JP03/16102.

As shown in the attached certified English translation of the priority document of JP 2002-364531, the filing date of the Japanese priority document of 2002-364531 is December 17, 2002, which is earlier than the filing date of March 11, 2004 of the reference **YU et al** (2005/0201919). Withdrawal of the above rejection is requested.

**ITEMS 6-8: REJECTION OF CLAIMS 1-3, 5-11, 16-21, 23, 30, 33 and 34 UNDER 35 U.S.C. 102(e) AS BEING ANTICIPATED BY HAGEMEYER ET AL (2004/0184986).**

To overcome the above rejection under 35 U.S.C. 102(e), Applicants herein submit the certified English translations of the priority documents of JP 2002-364531 and JP 2002-236862 in connection with the current patent application of 10/538,169, which is a national stage of international application of PCT/JP03/16102.

As show in the attached certified English translation of the priority document of JP 2002-364531, the filing date of the Japanese priority document of 2002-364531 is December 17, 2002, which is earlier than the filing date of December 20, 2002 of the reference **Hagemeyer et al** (2004/0184986). Withdrawal of the above rejection is requested.

**ITEMS 9-10: REJECTION OF CLAIMS 1-12, 14-24, and 26-36 UNDER 35 U.S.C. 103(a) AS BEING UNPATENTABLE OVER NARA ET AL (6312571) IN COMBINATION WITH HAGEMEYER ET AL (2004/0184986) AND HITOMI (6528201).**

(1) Regarding Independent Claim 1

The Examiner assert that “**Nara et al** disclose an activated cathode having an electrically conductive substrate, an interlayer of Nickel oxide formed on the surface thereof, and a catalyst layer having at least one lanthanum component selected from oxides and hydroxides thereof and at least on platinum component selected from platinum and silver and oxides and hydroxides thereof formed on the interlayer. The prior art of **Nara et al** does not disclose the use of an alkaline earth metal in the catalyst composition.”

The Examiner also assert that “The prior art of **Hitomi** is used to show that carbon particles support catalyst metal compositions due to the high catalytic activity for the reduction of oxygen and the oxidation reaction hydrogen.”

However, as recited in Independent Claim 1, for example, the claim uses an alkaline earth metal in the catalyst composition. Without **Hagemeyer et al.** (see above), a very important part of the Invention is missing from the Examiner’s rejection.

(2) Regarding Independent Claim 11 and Claim 31

The Examiner cited in Item 10 that the present invention relates to a combination of a noble metal, a rare-earth oxide as oxygen reduction catalyst and a carbon substrate.

**Nara et al.** relates to a hydrogen-generating electrode using a combination of a noble metal, a rare-earth oxide as catalyst and a Ni substrate.

**Hitomi** relates to a solid polymer fuel battery having an oxygen reduction catalyst in a combination of a carbon substrate and PTFE.

The examiner appears to combine **Nara et al.** and **Hitomi** merely by relying on the key words mentioned in the references while ignoring the major differences in the technical field, industrial application, and condition for use. Because of the major differences, one of ordinary skill in the art would not have combined the references.

In view of the foregoing differences relating to the electrode catalyst of claim 11 and claim 31, applicants respectfully submit that claim 11 and claim 31 has been patentably distinguished over **Nara et al.** and **Hitomi**, respectively.

(3) Regarding Independent Claim 29

**Nara et al.** discloses a hydrogen-generating electrode using a combination of a noble metal, a rare-earth oxide as catalyst and a Ni substrate.

**Hitomi** discloses a solid polymer fuel battery having an oxygen reduction catalyst in a combination of a carbon substrate and PTFE.

The examiner appears to combine **Nara et al.** and **Hitomi** merely by relying on the key words mentioned in the references while ignoring the major differences in the technical field, industrial application, and condition for use.

On the other hand, as recited in the listing of the claims, the invention of Claim 29 claims a combination of a noble metal, a rare-earth oxide as oxygen reduction catalyst and a carbon substrate with an unique feature of that the **particulate rare-earth oxide has a particle diameter of 500nm or less** (see page 11, lines 9-10 of the application), which feature has not been disclosed or suggested by either **Nara et al.**, or **Hitomi** at all and it enables the electrode catalyst to have a higher oxygen reduction activity.

Accordingly, even combining the teaching of the **Nara et al** patent with the teaching of the **Hitomi** patent, the present invention does not result. Furthermore, as described above, it is submitted that the references are too different to combine as suggested by the Examiner. Therefore, applicants respectfully submit that an obviousness rejection cannot be based on **Nara et al** in view of **Hitomi** and allowance of the pending independent claims 1, 11, 29, and 31, as well as depending claims 2-8, 10, 12, 14-21, 23-24, 26-28, 30, and 32-36 are respectfully requested.

#### **ITEM 11: RESPONSE TO ARGUMENT REGARDING CLAIMS 11, 29, and 31.**

As recited in foregoing items 9-10, independent claims **11, 29, and 31** are in allowable situation after removing **Hagemeyer et al.** from prior arts.

#### **CONCLUSION**

Thus, it is believed that all rejections and objections have been removed, and the present application is now in condition for allowance.

Reconsideration and early favorable action on the claims are earnestly solicited.

There being no further outstanding objections or rejections, it is submitted that the application is in condition for allowance. An early action to that effect is courteously solicited.

Finally, if there are any formal matters remaining after this response, the Examiner is requested to telephone the undersigned to attend to these matters.

If there are any additional fees associated with filing of this Amendment, please charge the same to our Deposit Account No. 19-3935.

Respectfully submitted,

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